

Differentiation in Action: Teachers at Work (Part 1)

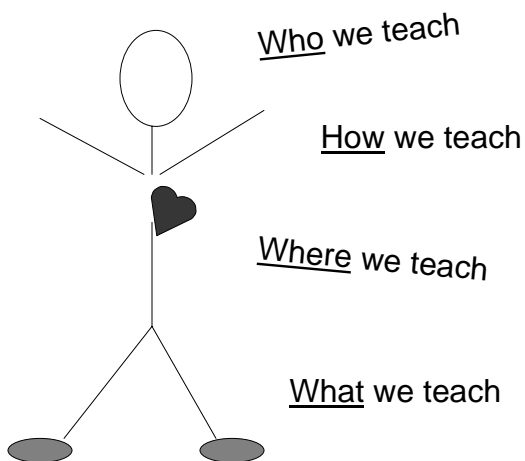


**Learning Network, NZ
Auckland, NZ**

October 19, 2006

Carol Ann Tomlinson, Ed.D.
University of Virginia
<cat3y@virginia.edu>

High Quality Teaching...

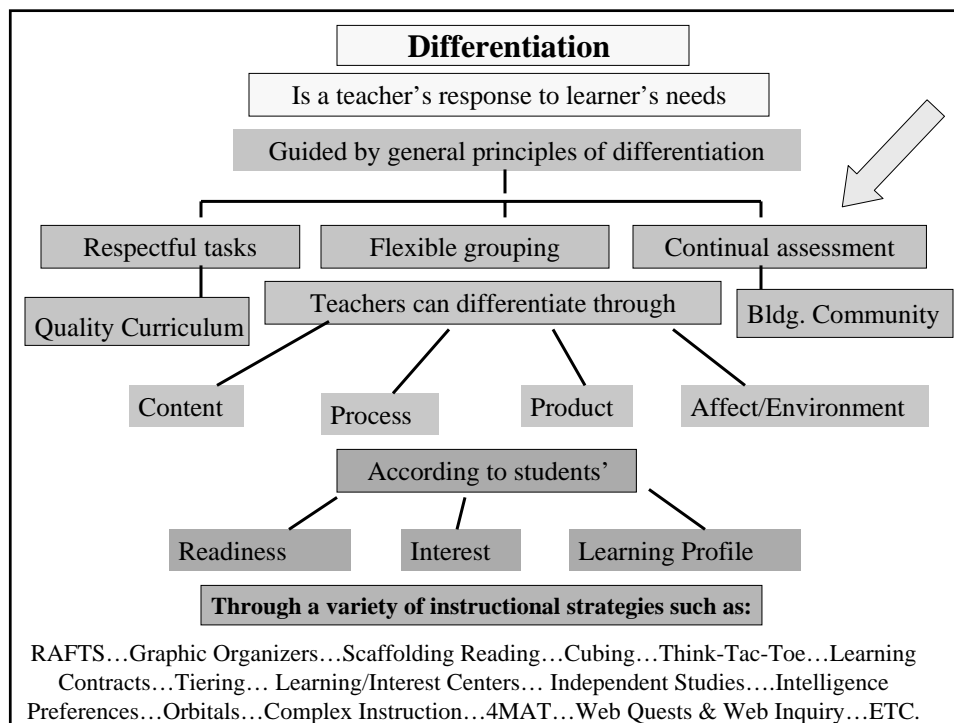


It's About Having All the Parts in Place...

Tomlinson '01

Big Idea of Differentiation:

On-Going Assessment & Adjustment (the feeder system for differentiation)





A basic cause of ineffective teaching and learning is lack of systematic, on-going assessment.

An effective teacher builds curriculum and instruction on analysis of data gathered through diagnosis.

Teaching in the dark is a questionable practice.

Hilda Taba & Deborah Elkins
Teaching Strategies for the Culturally Disadvantaged
Chicago: Rand McNally

"Differentiation is making sure that the right students get the right learning tasks at the right time. Once you have a sense of what each student holds as 'given' or 'known' and what he or she needs in order to learn, differentiation is no longer an option; it is an obvious response."



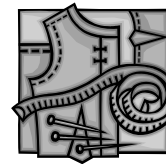
Assessment as Learning: Using Classroom Assessment to Maximize Student Learning

Lorna M. Earl

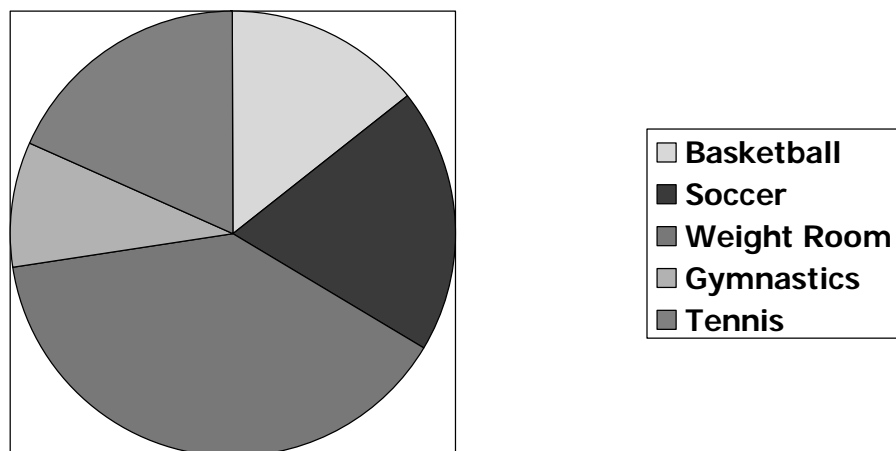
Corwin Press, Inc. – 2003 – pp. 86-87

On-Going Assessment & Adjustment

- Determining student readiness to work with essential knowledge, understanding and skill as a unit begins (**pre-assessment**), as a unit progresses (**formative or on-going assessment**), and as a unit concludes (**summative assessment**).
- Assessment provides direction to teachers on who needs particular kinds of support in particular areas to grow and succeed.
- Assessment is also key to understanding and attending to student interest and learning profile needs.



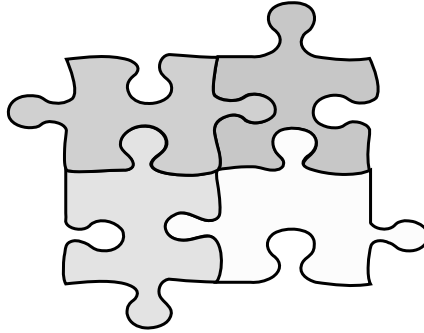
I hope we do ...



An example of pre-assessment of student interest

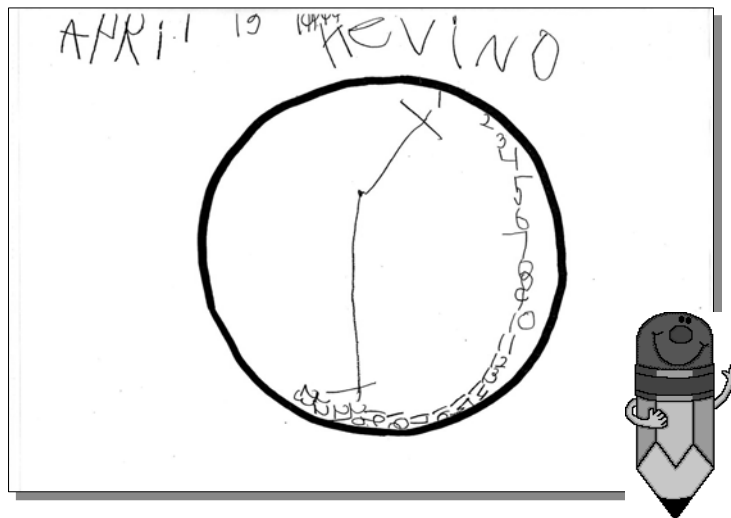
Puzzle

This puzzle is about you, your interests and things that you like to do. On each piece write things that you like to do in your free time and things that you would like to study in class. You can divide the areas if you need more pieces.


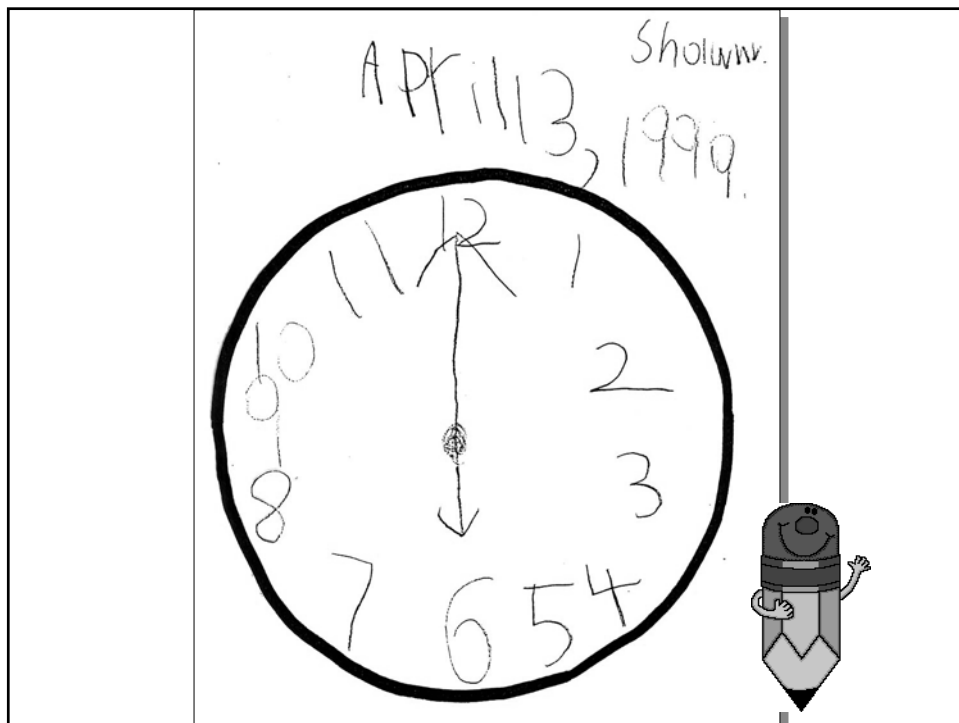


An example of pre-assessment of student interest

An Example of Pre-assessing Student Readiness in a Primary Classroom



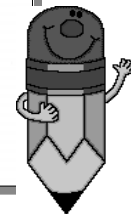
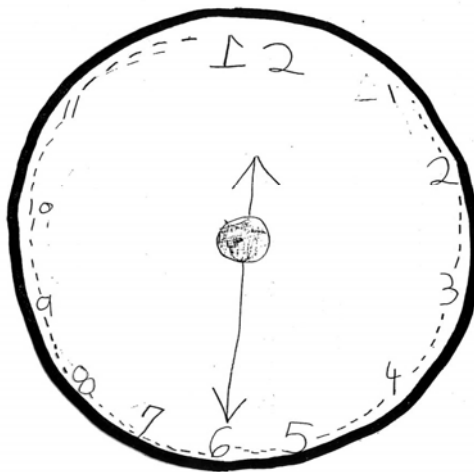
MAKE YOUR OWN
 CLOCK. the NUMBERS
 AND the FOR 60/100
 time WRITE ABOUT
 6 CLOCKS
 AND time

I know time is
easy I know
to make 6:30
it is easy
So easy time
is very special.



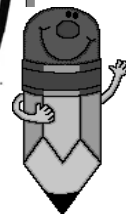
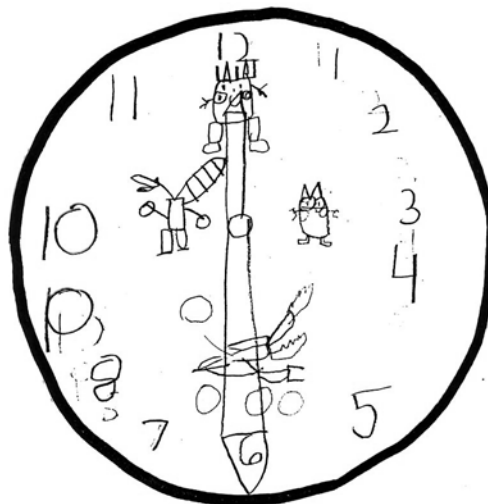
Tori April 13, 1994.



we eat lunch at 11:30
we got out of school
at 3:20. we got
in school at 7:00



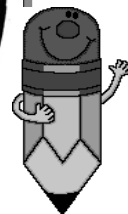
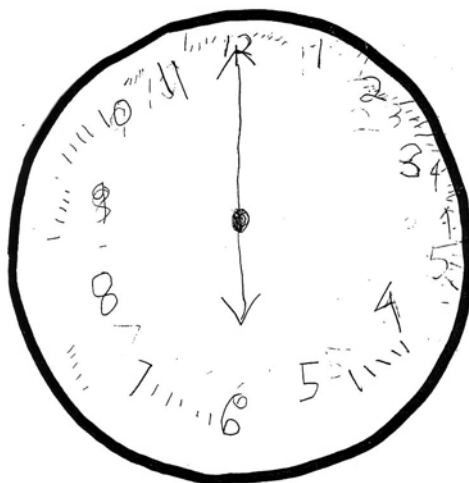
Shaun R. April 13, 1999

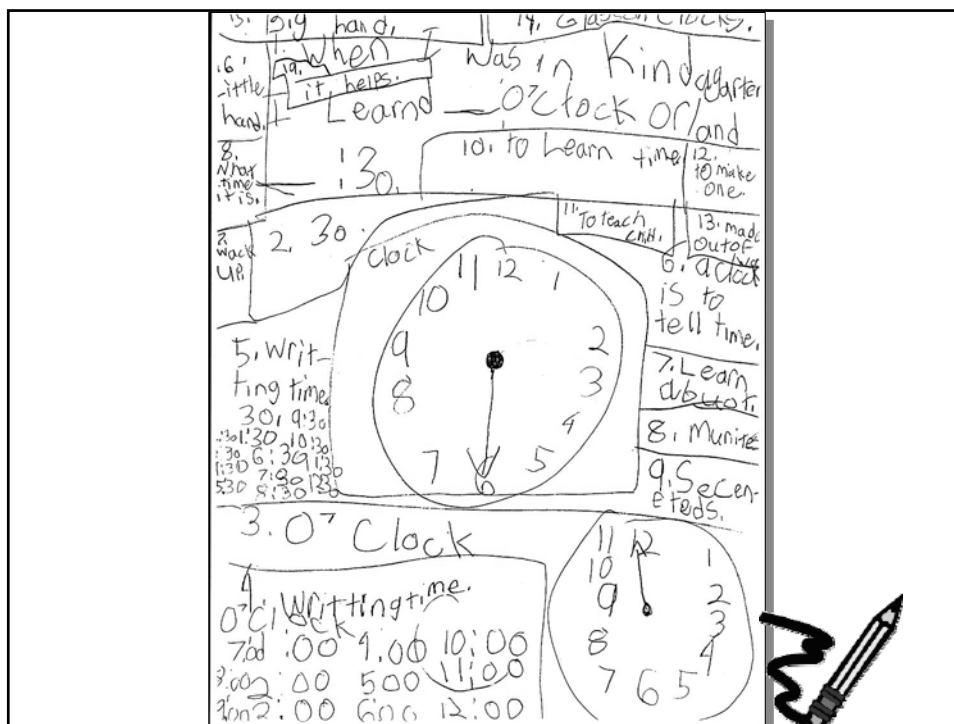


6 o'clock moms up
5 o'clock Dads up
7:15 Shaun R up
9:30 Kayli
8:30 Ben
9 o'clock school
10:30 Snack
11:30 Lunch
4 o'clock home



Lianne April 13, 1999





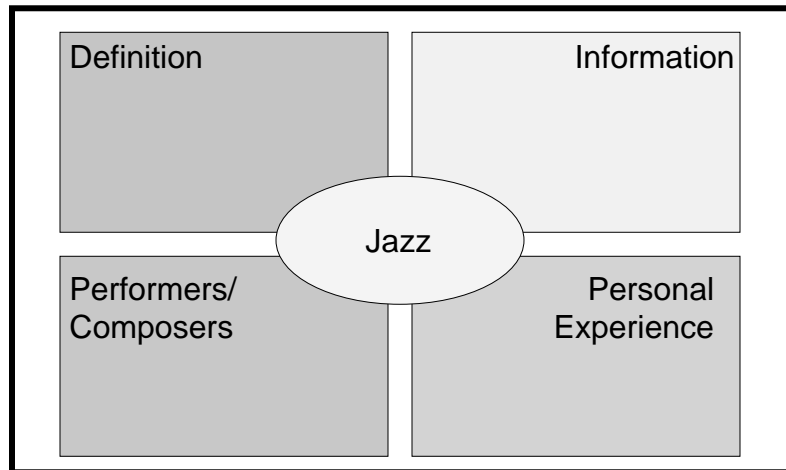
Directions: Complete the chart to show what you know about _____.
Write as much as you can.

Definition	Information
Examples	Non-Examples

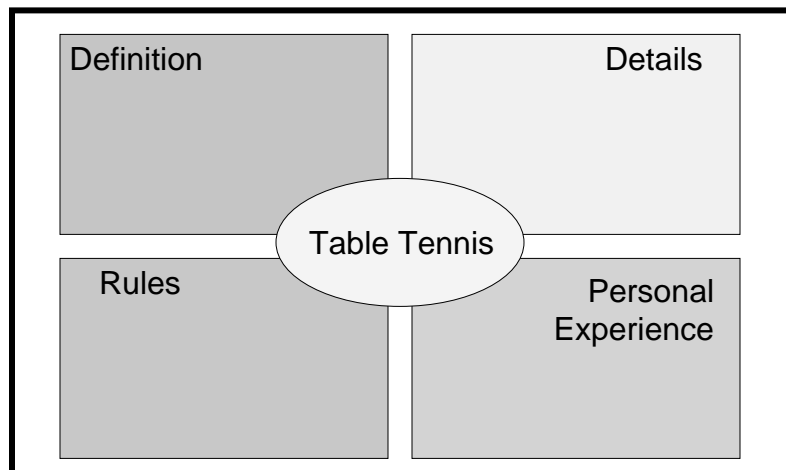
Fractions

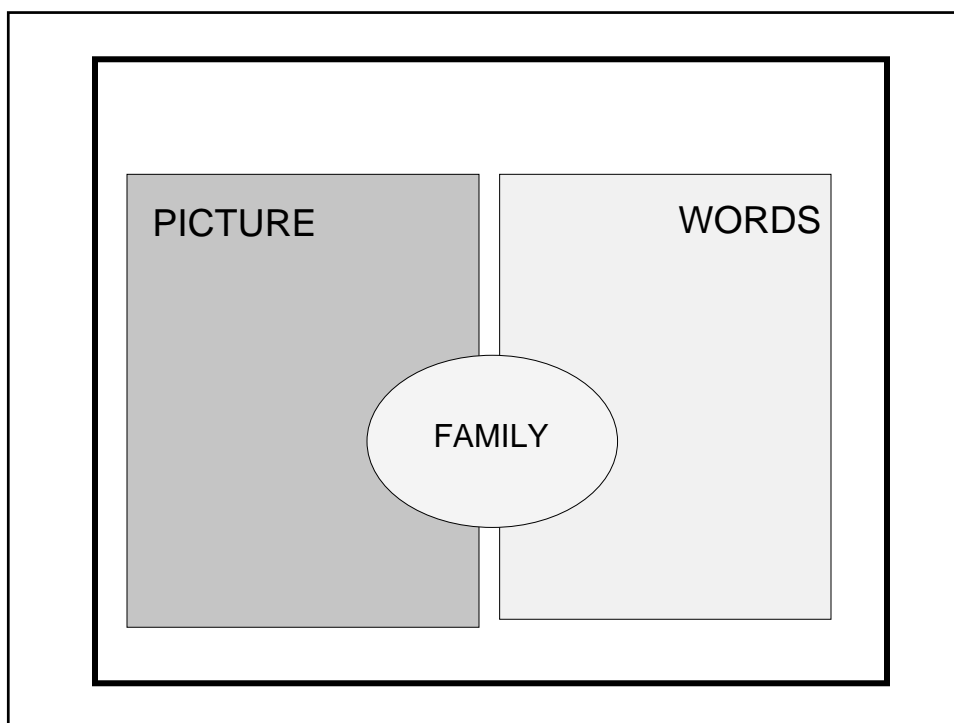
Use for pre-assessment & formative assessment of readiness in many grades & subjects

Directions: Complete the chart to show what you know about Jazz. Write as much as you can.



Directions: Complete the chart to show what you know about Table Tennis. Write as much as you can.





An example of pre-assessment of readiness

Knowledge Rating Chart

1. I've never heard of this before
2. I've heard of this, but am not sure how it works
3. I know about this and how to use it

_____ Direct object
_____ Direct object pronoun
_____ Indirect object
_____ Indirect object pronoun
_____ Object of a preposition
_____ Adjective
_____ Interrogative adjective

Examples of Visual Representations: **Knowledge Rating Chart.**

Directions: Rate the following statistics terms as follows:

1. I've never heard of the word before.
2. I've heard the term, but I don't know how it applies to mathematics.
3. I understand the meaning of this term and can apply it to a mathematics problem.

mean _____

line of best fit _____

median _____

correlation _____

mode _____

range _____

weighted average _____

normal distribution _____

bimodal distribution _____

skewed distribution _____

flat distribution _____

Exit Cards: Earth Science

Name: _____

- Draw the orbit of the earth around the sun. Label your drawing.
- Why is it warmer in the summer than in the winter?

Useful for on-going assessment in many grades/subjects

Exit Cards: Decimals & Fractions

Name: _____

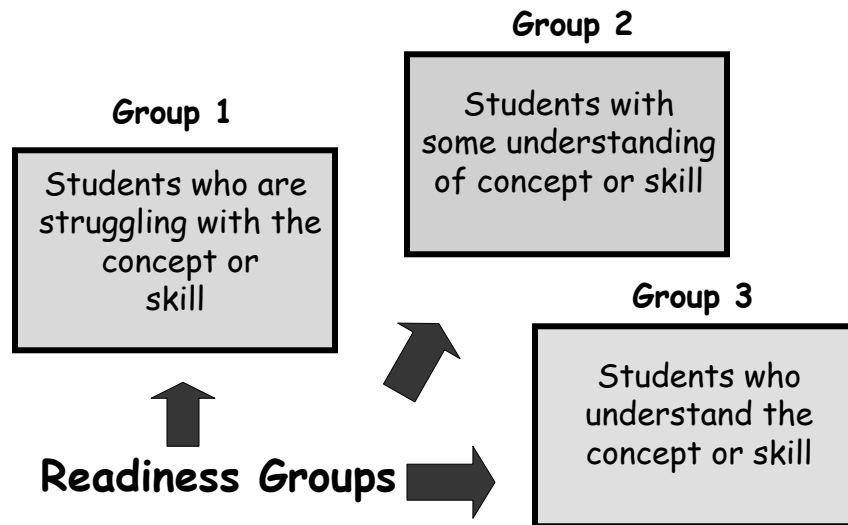
- How is a decimal like a fraction?
- How are they different?
- What's a light bulb moment for you as you've thought about fractions and decimals?

Exit Cards: Algebra

• Name: _____

- Draw a graph & label the "x" and "y" axes
- Graph a line with the endpoints (3,5) (7,2)
- Graph a line with the endpoints (-3,-5) (7,2)
- Provide two ways of writing the equation for a line

EXIT CARD GROUPINGS



3-2-1 Card

Name:

- **3 things I learned** from the friction lab...
- **2 questions** I still have about friction...
- **1 way** I see friction working in the world around me....

An example of informal on-going or formative assessment of readiness



Windshield Check



- CLEAR – “I get it!”
- BUGS – “I get it for the most part, but I still have a few questions.”
- MUD – “I still don’t get it.”

Or: Dip Stick—Full, Half Full, Need Oil

Weather Report—Sunny Skies, A Few Low Clouds, Fog & Smog

Name_____

What Do You Want to Learn about Rome?

These are some of the topics we will be studying in our unit on Ancient Rome. We want to know what you want to learn about. Number your choices from 1-7. Make sure that 1 is your favorite and 7 is your least favorite.

- _____geography
- _____government (law)
- _____agriculture (food they grew)
- _____architecture (buildings)
- _____music and art
- _____religion and sports
- _____roles of men, women, and children

What Can You Tell Us About Rome?

1. What country is Rome in?_____
2. What does “civilization” mean?_____
3. Can you give us some examples of different civilizations?_____
4. Can you name any famous Roman people?_____
5. Many things in our country and culture came from the Romans. Name any you can think of _____

Name _____		
How Do You Like To Learn?		
1.	I study best when it is quiet?	Yes No
2.	I am able to ignore noise of others when I am working.	Yes No
3.	I like to work at a table or desk.	Yes No
4.	I like to work on the floor.	Yes No
5.	I work hard for myself.	Yes No
6.	I work hard for my parents.	Yes No
7.	I will work on an assignment until it is completed, no matter what.	Yes No
8.	Sometimes I get frustrated with my work and do not finish it.	Yes No
9.	When my teacher gives an assignment, I like to have exact steps on how to complete it.	Yes No
10.	When my teacher gives an assignment, I like to create my own steps on how to complete it.	Yes No
11.	I like to work by myself.	Yes No
12.	I like to work in pairs or in groups.	Yes No
13.	I like to have an unlimited amount of time to work on an assignment.	Yes No
14.	I like to have a certain amount of time to work on an assignment.	Yes No
15.	I like to learn by moving and doing.	Yes No
16.	I like to learn while sitting at my desk.	Yes No

<h1>A Planet Show & Tell</h1> <h2>An Example of a Differentiated Summative Assessment</h2>			
Use computer to make a drawing showing how rotation and revolution work to create day and night and seasons	Paint a picture showing how rotation and revolution of Earth works to create day and night and seasons	Construct a model that shows how rotation and revolution of Earth works to create day and night and seasons	Create a book or a puppet show that shows how the rotation and revolution of the Earth works to create day and night and seasons
Make labels for the sun, earth, day, night, orbit to attach to your creation. Be ready to explain orally.	Write sentences that identify and explain each part of your drawing or model and show how each part works.	Write a paragraph that explains the earth's rotation , revolution, day, night, and seasons	Write a poem that explains the earth's rotation , revolution, day, night, and seasons



Assessment & Differentiation...

- ★ It's about guiding students, not judging them.
- ★ It's about informing instruction, not filling grade books.
- ★ It's about before, during, & after—not just after.
- ★ It's about teaching for success—not gotcha teaching.

What's Different?

Personal Check

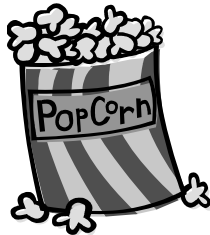
Strengths	Opportunities
<i>How are <u>you</u> doing with pre-assessment & on-going assessment to inform instruction?</i>	

Movie Time....



In These Classrooms, Look For:

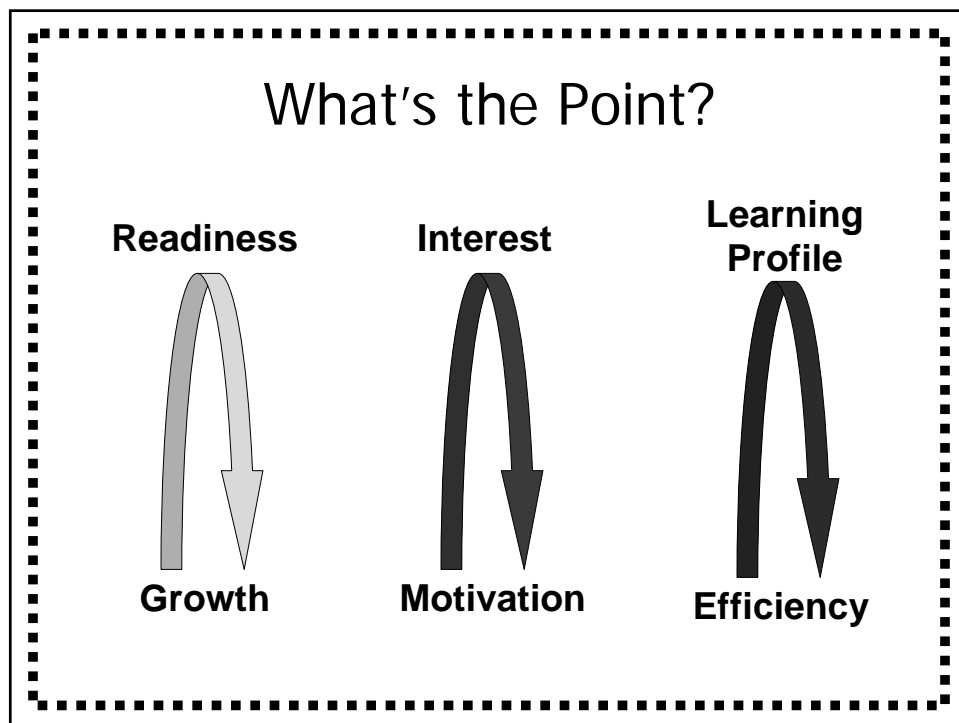
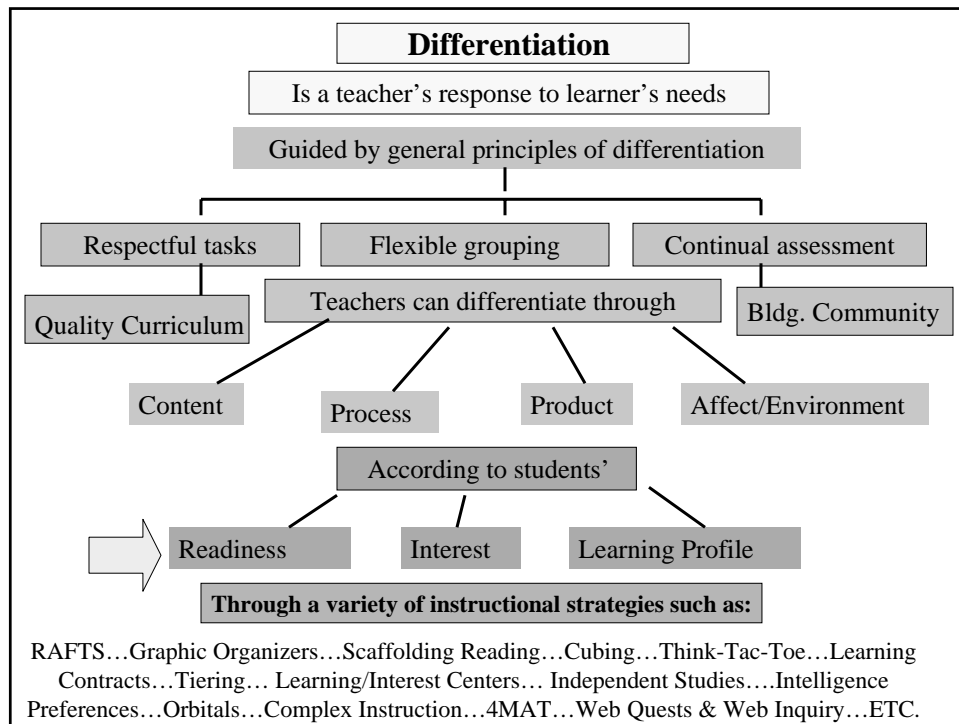
Ways the teachers think about and use assessment,
Ways in which their thinking about teaching and
learning may differ from the ways we often
think about teaching and learning,
Your questions.



Big Idea of Differentiation:

**Using Varied Instructional
Strategies for Responding
to Readiness, Interest,
& Learning Profile
(the tools of differentiation)**





Teachers at Work:

Responding to Student Readiness Needs

Beginning with some low prep examples



Ways To Differentiate Content

- Reading partners/ Reading Buddies
 - Read/Summarize
 - Read/Question/Answer
 - Visual Organizer/Summarizer
 - Parallel Reading with Teacher Prompt
- Choral Reading/Antiphonal Reading
- Flip books
- Split Journals (Double Entry - Triple Entry)
- Books on Tape
- Highlights on Tape
- Digests/"Cliff Notes"
- Notetaking Organizers
- Varied Texts
- Varied Supplementary Materials
- Highlighted Texts
- Think-Pair-Share/Preview-Midview-Postview



Electricity	
<p><u>Description</u></p> <p>Electricity is one kind of energy</p>	<p><u>Kinds of Electricity</u></p> <p>There are two kinds of electricity, static and current. Static electricity is on electric charge that does not move. Current electricity is the movement of electrons.</p>
<p><u>Electric Circuits</u></p> <p>There are two kinds of electric circuits A series circuit is one in which current can follow only one path A parallel circuit is one in which current can follow more than one path.</p>	<p><u>Producing Electricity</u></p> <p>A generator is a machine that changes mechanical energy into electrical energy. A dry cell uses a chemical paste, carbon rod, and zinc to produce a flow of electrons. A wet cell uses acid and water, which reacts with metal plates, to produce a flow of electrons.</p>
<p><u>Using Electricity</u></p> <p>Electricity is an important source of light and heat. Electrical energy can be changed to mechanical energy. Fuses and circuit breakers are safety devices designed to help use electricity safely.</p>	<p><u>Measuring Electricity</u></p> <p>The amount of electricity used is measured in kilowatt-hours.</p> <p><small>Note: Basic format "Perceptions and Strategies," by M.W. Olson and T.C. Gee, 1991. <i>The Reading Teacher</i>, 45(4), 298-307 Copyright 1991 by the International Reading Association <i>Teaching Reading in Science</i> by Barton and Jordan</small></p>


A Simple & Important Example

Varied Homework

Why'd we ever think the same homework for everyone made sense anyhow??

Homework Checkers

Sure you can check homework when kids do varied tasks!!



Homework Checkers



Background:

This is a process for checking multiple homework assignments simultaneously in a classroom so that the teacher feels free to differentiate homework as necessary to address particular student learning needs.

Steps:

1. The teacher checks to make sure each student has completed assigned homework
2. Students who have not completed the assignment work in a designated area of the room to complete the assignment (teacher floats to provide guidance/feedback)
3. Students who completed the HW work in groups of 4 to check all 4 sets for agreement/disagreement
4. All students mark each answer for agreement/disagreement as well as explanations of why an answer is wrong and how to make it right
5. Students sign indicating agreement, staple set of 4 together, turn in
6. Teacher spot checks, "grades" one per set

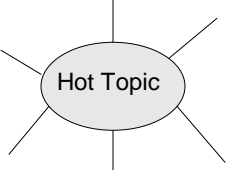
When Does it Make Sense to...

Give everyone the same homework assignment?
Why do you say so?

Use different homework assignments?
Why do you say so?


What problems might it create if you sometimes
used different homework assignments?

Think about it...



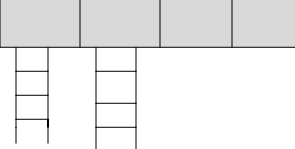
Hot Topic

Writing



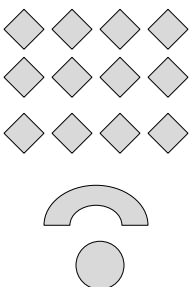
Group 1

- Meet with teacher
- Brainstorm for hot topics
- Web ideas for possible inclusion
- Develop a word bank
- Storyboard a sequence of ideas
- Make support ladders
- Begin writing



Group 2




- Alone or in pairs, develop a topic
- Make a bank of power ideas
- Web or storyboard the sequence and support
- Meet with teacher to “ratchet”
- Begin writing
- Paired revision
- Paired editing



**WHY SO MANY STUDENT ESSAYS
MISS THE MARK**




**Without passion, even organized and
grammatically correct essays
will fail to move the reader.
And without emotion,
there is no meaning
for the writer either.**


MIDDLE GROUND • Vol. 2, #3 • Feb. 1999

Sedimentary	Igneous	Metamorphic
		

Rock Log

Sort your samples. Draw each sample in the correct column. Write a description that tells color, texture and other characteristics about the rock.

Sedimentary	Igneous	Metamorphic
		
<p>Look at Sample # _____</p> <p>You may see small particles of rock and other materials. The particles may look rounded. You may see layers in some rocks.</p>	<p>Look at Sample # _____</p> <p>You may see large crystals in some of these rocks. Others will not have crystals, but you will see air holes. Some may look like glass. There are no layers.</p>	<p>Look at Sample # _____</p> <p>These rocks may have crystals or layers. They are formed from other rocks that have been changed by heat and pressure.</p>



The class does the same activity, but more guidance is given for those who may need it.

Created by Meri-Lyn Stark
Elementary Science Coordinator
Park City School District

Contemporary Lecture

Background:

Acknowledges both the desire of teachers to use lecture/give notes and the need of adolescents for developmentally appropriate instruction.

Draws on understandings about what adolescents generally need in order to learn.

Steps:

1. Determine goals for lecture (KUDs)
2. Plan flow of lecture to ensure match with KUDs and tight logic
3. Develop one or more graphic organizers that follow the flow of the lecture and scaffold students determining its key points and organization (Use only with students who need the support)
4. Stop during the lecture about every 7-8 minutes to engage students in sense-making (summarizing, reasoning, concluding, projecting, etc.)

